

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-___

NPDES NO. CA0004057

WASTE DISCHARGE REQUIREMENTS
FOR
FORMICA CORPORATION
SIERRA PLANT
PLACER COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. Formica Corporation (hereafter Discharger), submitted a Report of Waste Discharge, dated 18 July 2002 and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from its Sierra Plant facility. Additional information was submitted to the Regional Board by the Discharger to complete filing of the application on 7 April 2003. A new Report of Waste Discharge was submitted on 11 November 2004 and additional information on 28 February 2005.
2. The Discharger owns and operates a distribution and manufacturing facility that handles high-pressure decorative plastic laminate. The facility is in Section 9, T11N, R5E, MDB&M, as shown on Attachment A, a part of this Order. Approximately 0.6 mgd of noncontact cooling water is discharged via a drainage ditch into an unnamed tributary of Pleasant Grove Creek, and has resulted in the formation of a freshwater marsh at the point of discharge (here after emergent marsh). The unnamed tributary is tributary to Pleasant Grove Creek, Pleasant Grove Creek Canal, Natomas Cross Canal, and the Sacramento River, south of the confluence with the Feather River at latitude 38°N, 49', 20" and longitude 121°W, 18', 48". The unnamed tributary and Pleasant Grove Creek, both waters of the United States and the State, are ephemeral.
3. Press cooling water and press vacuum cooling water are detained in a 290,000 gallon earthen, unlined detention pond to provide some temperature equalization and particulate settling prior to discharge into a drainage ditch then the emergent marsh via both a subsurface culvert and elevation control outlet.
4. Print and translucent air conditioning cooling water, treater unwind brake cooling water and treater end rolls cooling water are discharged directly into the drainage ditch via a separate culvert upstream of the outlet where the press cooling waters enter the ditch and the emergent marsh.
5. The noncontact cooling water discharges mix onsite in the drainage ditch prior to entering the unnamed tributary and, ultimately, Pleasant Grove Creek approximately two miles downstream. The emergent marsh is principally on property owned by the Discharger.

6. The effluent discharge has an elevated pH, typically above 9.0. The elevated pH values are from the City of Roseville's water supply, not wastewater activities by the Discharger. The Discharger adds sulfuric acid, to balance the waste stream pH, prior to discharge into the emergent marsh. A pH limitation for the discharge into the emergent marsh has been established to protect aquatic life beneficial uses and an effluent limitation has been established based on the Basin Plan water quality objective.
7. Two chemical additives, CHEMTREAT CL-1467 and CHEMTREAT CL-450 (corrosion inhibitors, biocides or anti-scaling agents), are used in the cooling water. These chemicals were present during the characterization of the discharge. The addition of different chemicals to the wastestream, or cooling water, would constitute a change in the character of the wastestream and would require submittal of a Report of Waste Discharge with possible modification of this Order.
8. The Discharger has constructed a containment area for chemical spill prevention that protects against discharge to surface waters in the event of any spillage of phenolic resin or isopropyl alcohol when the storage tanks for these chemicals are being filled. Any wastewater or residue that accumulates in this containment area is disposed of as hazardous waste. Alcohol, phenolic resin, and melamine resin also are stored in aboveground tanks with concrete spill catchment basins.
9. On 11 November 2004, the Discharger submitted the revised Report of Waste Discharge indicating that Formica plans to cease the discharge from its plant within the next two years as it implements a closed loop cooling system that will eliminate the need for any discharge to the surface waters. However, it is possible that regulatory requirements or unexpected equipment issues may occur that prevent this milestone from being met. Formica requests a two-year compliance schedule for compliance with permit limitations to allow for cessation of the discharge. If regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond two years, Formica requests that an additional three years be added to the compliance schedule to allow time to meet regulatory requirements or resolve unexpected equipment issues. In such circumstances, the current discharge shall be allowed to continue for an additional three years, but in no case beyond 29 April 2010, so long as Formica submits a workplan to the Regional Board by 29 April 2007 that proposes additional measures that will address potential impacts of the discharge and, once approved, Formica implements that workplan promptly thereafter. In addition to an assessment of overall compliance, the workplan will specifically address achieving a discharge temperature that is protective of the cold-water beneficial use until the discharge can be eliminated. Compliance time schedules included in this Order are based on the Discharger's request.
10. Approximately 0.3 mgd of sanitary and industrial wastewater is discharged to the City of Roseville's Regional Wastewater Treatment Plant. The industrial wastewater consists of:
 - a. Boiler blowdown.
 - b. Air compressor cooling water
 - c. Oil water separator water

11. Monthly effluent monitoring data were submitted by the Discharger as required by the previous Order. Data from 1998-2002 were examined and the detected values of constituents are summarized as follows:

Monthly Average Flow: 0.60 million gallons per day (mgd)

Average Daily Flow: 1.0 mgd

Constituent	Units	Average ¹	High	Low ¹	Percent Non-Detect ²
COD	mg/L	7.98	25	6	54
	lbs/day	27.3	93.9	28.0	
TSS	mg/L	3.7	65	0.05	13
	lbs/day	12.9	257	0.22	
pH	standard units		8.5	6.0	
Temperature	°F	78.9	100	48	
Electrical Conductivity	µmhos/cm	66.8	422.7	40.0	
Dichlorobromomethane	µg/L		1.2		
Bis(2-ethylhexyl)phthalate	µg/L		9.0		
Aluminum	µg/L		100 ³		
	µg/L		28 ⁴		
Iron	µg/L		140		
Chloroform	µg/L		16		
Naphthalene	µg/L		4.5		
Manganese	µg/L		74		

¹ Based only on detected values.

² Percent non-detect 1998-2002

³ Measured as total recoverable concentration

⁴ Measured as acid soluble concentration

12. The State Water Resources Control Board (SWRCB) adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent (NOI) by industries to be covered under the permit. The Discharger submitted an NOI and its storm water discharges are covered by the General Permit (WDID# 5S311001546).

RECEIVING WATER BENEFICIAL USES

13. The Regional Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.
14. The Basin Plan at page II-2.00 states: “*Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.*” Furthermore, the Regional Board generally is required to apply the beneficial uses of municipal and domestic supply to surface waters based on State Board Resolution No. 88-63, which was incorporated in the Basin Plan pursuant to Regional Board Resolution 89-056.

The Basin Plan does not specifically identify beneficial uses for the unnamed tributary to Pleasant Grove Creek, Pleasant Grove Creek, Pleasant Grove Creek Canal, and Natomas Cross Canal, but does identify present and potential uses for the Sacramento River. The unnamed tributary to Pleasant Grove Creek, Pleasant Grove Creek, Pleasant Grove Creek Canal and the Natomas Cross Canal, are tributary to the Sacramento River. The unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek are in the Pleasant Grove Hydrologic Subarea (519.22) of the Valley-American Hydrologic Unit (519.00), in the Sacramento River Hydrologic Basin. The unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek are tributary to a section of the Sacramento River between the Colusa Basin Drain and the “I” Street Bridge in Sacramento (Colusa Basin Drain Hydrologic Unit 520.00). The Basin Plan, on page IV-24, prohibits the direct discharge of municipal and industrial wastewater into the Sacramento River from the confluence with the Feather River to the Freeport Bridge. When sufficient water is present, the discharged effluent flows through western Placer County and Sutter County where it commingles with water in Pleasant Grove Creek Canal and Natomas Cross Canal before entering the Sacramento River; thus, the discharge is not directly to the Sacramento River.

The Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River, from the Colusa Basin Drain to the “I” Street Bridge, are applicable to the unnamed tributary of Pleasant Grove Creek and Pleasant Grove Creek. The Regional Board also finds that the emergent marsh contains aquatic habitat, and the unnamed tributary to Pleasant Grove Creek qualifies as waters of the State and have the same beneficial uses as the unnamed tributary to Pleasant Grove Creek, and hence the Sacramento River. These beneficial uses are municipal and domestic supply, agricultural irrigation, water contact recreation, non-contact water recreation, warm freshwater aquatic habitat, warm fish migration habitat, and warm spawning habitat, cold freshwater aquatic habitat, cold fish migration habitat, and cold spawning habitat, wildlife habitat, and navigation. The Basin Plan on page II-1.00 states: “*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*” and with respect to disposal of wastewaters states that “*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*”

In reviewing whether the existing and/or potential uses of the Sacramento River apply to the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek, the Regional Board has considered the following facts:

a. *Domestic Supply and Agricultural Supply*

The Regional Board is required to apply the beneficial uses of municipal and domestic supply to the Sacramento River based on State Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Board Resolution 89-056. In addition, the SWRCB has issued water rights to existing water users along the Sacramento River, the unnamed tributary and Pleasant Grove Creek downstream of the discharge for domestic and irrigation uses. Since the unnamed tributary and Pleasant Grove Creek are ephemeral streams, they also likely provide groundwater recharge during periods of low flow. The groundwater is a source of drinking water. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water in receiving stream.

b. *Water Contact and Noncontact Recreation and Esthetic Enjoyment*

The Regional Board finds that the discharge flows through residential areas, and there is ready public access to the unnamed tributary of Pleasant Grove Creek, Pleasant Grove Creek, Pleasant Grove Creek Canal, Natomas Cross Canal, and the Sacramento River. Exclusion of the public is unrealistic and contact recreational activities currently exist along the unnamed tributary of Pleasant Grove Creek, Pleasant Grove Creek, Pleasant Grove Creek Canal, Natomas Cross Canal, and the Sacramento River and these uses are likely to increase as the population in the area grows.

c. *Preservation and Enhancement of Fish, Wildlife and Other Aquatic Resources*

The California Department of Fish and Game (DFG) has verified that the fish species present in the Sacramento River and downstream waters are consistent with both cold- and warm-water fisheries and that there is a potential for anadromous fish migration, thus necessitating a cold-water designation. The Basin Plan (Table II-1) designates, the Sacramento River as being both a cold and warm freshwater habitat. Therefore, pursuant to the Basin Plan, the cold designation applies to the unnamed tributary of Pleasant Grove Creek, Pleasant Grove Creek, Pleasant Grove Creek Canal, Natomas Cross Canal, and the Sacramento River. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L. This approach recognizes that, if the naturally occurring in-stream dissolved oxygen concentration is below 7.0 mg/L, the Discharger is not required to improve the naturally occurring level. As stated in the above Findings, currently the unnamed tributary of Pleasant Grove Creek and Pleasant Grove Creek are ephemeral streams. The City of Roseville has constructed a new wastewater treatment plant that currently discharges a significant volume of effluent to Pleasant Grove Creek. The City's wastewater discharge will change the character of the

receiving stream where currently there may be periods where there is not hydraulic continuity with downstream waters. The significantly increased flow rate will increase the likelihood of coldwater fish migration into the Natomas Cross Canal, Pleasant Grove Creek Canal, Pleasant Grove Creek, and the unnamed tributary to Pleasant Grove Creek. Regional Board staff has observed large numbers of fish within the emergent marsh.

Upon review of the flow conditions, habitat values, and beneficial uses of the Sacramento River, and the facts described above, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River are applicable to the unnamed tributary to Pleasant Grove Creek, Pleasant Grove Creek, and any associated marsh.

15. The Regional Board finds, based on available information, that the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek, absent the discharge, are ephemeral streams. The ephemeral nature of the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek help support the aquatic life. Both conditions may exist within a short time span, where the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the Sacramento River. Dry conditions occur primarily in the summer months, but may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Dilution may occur during and immediately following high rainfall events.

EFFLUENT LIMITATIONS / REASONABLE POTENTIAL ANALYSIS

16. The U.S. Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. When combined with the beneficial use designations in the Basin Plan, these Rules contain water quality standards applicable to this discharge. On 2 March 2000, the SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP), which contains policy for implementation of the NTR and CTR.
17. The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. (33 U.S.C., § 1311(b)(1)(C); 40 C.F.R., § 122.44(d)(1).) NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an

excursion above any state water quality standard, including state narrative criteria for water quality.” Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

18. The Regional Board’s Basin Plan, page IV-17.00, contains an implementation policy (“Policy for Application of Water Quality Objectives”) that specifies that the Regional Board “*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*” This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Board must establish effluent limitations using one or more of three specified sources, including EPA’s published water quality criteria, a proposed state criterion (i.e., water quality objective), or an explicit state policy interpreting its narrative water quality criteria (i.e., the Regional Board’s “Policy for Application of Water Quality Objectives”)(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plan contains a narrative objective requiring that: “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life”. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The beneficial uses include municipal and domestic supply, agricultural irrigation supply, water contact and non-contact recreation and aquatic habitat and migration. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCLs) of CCR Title 22. The Basin Plan further states that; to protect all beneficial uses the Regional Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan narrative criteria clearly establish a procedure for translating the narrative objectives into numerical effluent limitations.
19. Federal regulations at 40 CFR 122.44(d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numeric water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for Chemical Oxygen Demand, Total Suspended Solids, pH, bis(2-ethylhexyl)phthalate, dichlorobromomethane, aluminum, iron, chlorine, total trihalomethanes, persistent chlorinated hydrocarbon pesticides, naphthalene, and manganese. Effluent limitations for these constituents are included in this Order.

20. On 10 September 2001, the Executive Officer issued a letter, pursuant to California Water Code, Section 13267, requiring the Discharger to prepare a technical report assessing effluent and receiving water quality. This letter required sampling for NTR, CTR, and additional constituents to determine the water quality impacts of the discharge. The Discharger provided receiving water and effluent monitoring data for three quarters in 2002 (February, May and November).
21. Section 1.3 of the SIP requires that the Regional Board impose water quality-based effluent limitations for a priority pollutant if (1) the maximum effluent concentration (MEC) is greater than the most stringent CTR criterion or applicable site-specific Basin Plan objective, or (2) the ambient background concentration is greater than the CTR criterion or applicable site-specific Basin Plan objective, or (3) other information is available to determine that a water quality-based effluent limitation is necessary to protect beneficial uses.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

22. **Chemical Oxygen Demand:** Order No. 97-112 established effluent limitations for chemical oxygen demand (COD) of 10 mg/L or 83 lbs/day (monthly average) and 35 mg/L or 292 lbs/day (daily maximum), which were technology-based limits developed using best professional judgment. These limitations are equivalent to the level of effluent quality expected by domestic tertiary treatment and also will be protective of beneficial uses of the receiving water, particularly in maintaining dissolved oxygen levels. An excess of chemical oxygen demanding substances can cause depletion of the instream dissolved oxygen levels thereby causing harm to aquatic life. To ensure attainment of beneficial uses, this Order carries over the COD Effluent Limitations established by the previous Order.
23. **Total Suspended Solids (TSS):** Order No. 97-112 established effluent limitations for TSS of 10 mg/L or 83 lbs/day (monthly average) and 15 mg/L or 125 lbs/day (daily maximum), which were technology-based limits developed using best professional judgment. These limitations are equivalent to the level of effluent quality expected by domestic tertiary treatment and also will be protective of the narrative water quality objective for suspended material from the Basin Plan. In order to ensure attainment of beneficial uses, this Order carries over the TSS Effluent Limitations established by the previous Order.

REASONABLE POTENTIAL ANALYSIS FOR EFFLUENT LIMITATIONS – NON-CTR CONSTITUENTS

24. **Aluminum:** Aluminum was detected at a maximum concentration of 100 µg/L in one of three effluent samples (measured as total recoverable concentrations) and 28 µg/L (measured as acid-soluble concentration). Using the methodology in the USEPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control, the projected maximum effluent concentration (MEC) of aluminum is calculated at 560 µg/L (total recoverable concentration) and 209 µg/L (acid-soluble concentration). Aluminum exists as aluminum silicate in suspended clay particles, which U.S. EPA acknowledges might be less toxic than other forms

of aluminum. Correspondence with U.S. EPA indicates that the criterion is not intended to apply to aluminum silicate. Therefore, a monitoring method that excludes aluminum silicate is likely to be more appropriate. The use of acid-soluble analysis for compliance with the aluminum criterion appears to satisfy U.S. EPA. USEPA established recommended ambient water quality criteria for the protection of freshwater aquatic life at 87 µg/L (four-day average) and 750 µg/L (one-hour average). The California DHS has established a secondary MCL for aluminum of 200 µg/L, with the USEPA having a secondary MCL of 50-200 µg/L. The projected MEC of aluminum exceeds the most stringent freshwater aquatic life criterion and the secondary MCLs established by the State and USEPA. Effluent Limitations are required for aluminum and are included in this Order based on the Basin Plan narrative toxicity objective utilizing the EPA Recommended Ambient Water Quality Criteria. Maximum daily and average monthly concentration-based Effluent Limitations for aluminum are calculated at 750 µg/L and 71 µg/L, based on the U.S. EPA Ambient Water Quality criteria for protection of aquatic life. The corresponding mass-based effluent limitations are 6.3 lbs/day and 0.59 lbs/day.

25. **Chlorine:** U.S. EPA has developed Recommended Ambient Water Quality criteria for the protection of freshwater aquatic life. The recommended acute (1-hour average) and chronic (4-day average) aquatic life criteria for chlorine are 19 µg/L and 11 µg/L, respectively. Water chemistry analyses conducted in conjunction with chronic toxicity testing in 2000, 2001, and 2002 have indicated total chlorine concentrations in samples of effluent ranging from below detection to 0.3 mg/L (300 µg/L). All but one sample exceeded both the acute and chronic criteria. The chlorine in bioassay samples has had a significant time to degrade while the sample was transported to the laboratory without measures designed to preserve chlorine. Chlorine volatilizes quickly and U.S. EPA recommends that samples be analyzed immediately with a minimal holding time. The actual effluent chlorine concentration was reasonably higher than the level detected at the off-site laboratory. The total residual chlorine discharged from the facility has the reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective. Based on this information, this Order includes effluent limitations for total residual chlorine of 0.01 mg/L as a 4-day average and 0.02 mg/L as a 1-hour average.

Chlorine limitations shall become effective by 1 August 2005. Additionally, all but one of the data points exceeded the effluent limitation for chlorine, which indicates the potential for continuous violation of the effluent limit. To insure compliance, continuous monitoring for chlorine shall be provided.

26. **Iron:** Iron was detected in each of the five effluent samples at a maximum concentration of 140 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of iron is calculated at 588 µg/L. The California DHS and USEPA secondary MCL for iron is 300 µg/L. The projected MEC of iron exceeds the secondary MCL of 300 µg/L; therefore, there is a reasonable potential that the discharge will cause or contribute to an excursion of the Basin Plan chemical constituents objective for iron. This Order contains Monthly Average Effluent Limitations for iron of 300 µg/L and 2.5 lbs/day.

27. **Naphthalene:** Analytical laboratory results submitted by the Discharger indicate that naphthalene was detected in 1 of 3 effluent samples. The maximum detected effluent concentration of naphthalene was reported at 4.5 µg/l. Naphthalene is included in the CTR. However, no CTR criteria for naphthalene have yet been established. Therefore, the reasonable potential analysis for non-CTR constituents is applied to naphthalene to determine whether naphthalene causes or has a reasonable potential to cause an exceedance of a water quality criterion or objective. U.S.EPA Integrated Risk Information System (IRIS) includes a reference dose as a drinking water level of 14 µg/l for naphthalene. Using the TSD reasonable potential analysis, the projected MEC of naphthalene is calculated at 25 µg/l. The projected MEC of naphthalene exceeds the U.S. EPA IRIS reference dose. Because beneficial uses of the receiving waters include municipal and domestic supply, the discharge from the Sierra Plant has a reasonable potential to cause an exceedance of the Basin Plan narrative toxicity objective and the U.S. EPA IRIS reference dose as a drinking water level for naphthalene. To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for naphthalene based on the Basin Plan narrative toxicity objective and the U.S.EPA IRIS reference dose of 14 µg/l.
28. **Manganese:** Analytical laboratory results submitted by the Discharger indicate that manganese was detected in 1 of 3 effluent samples. The maximum detected effluent concentration of manganese was reported at 74 µg/l. U.S. EPA and the Department of Health Service established a Secondary MCL of 50 µg/l for manganese. Using the TSD reasonable potential analysis, the projected MEC of manganese is calculated at 414 µg/l. The maximum detected effluent concentration of manganese exceeds the Secondary MCL. To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for manganese based on the Basin Plan chemical constituents objective at the Secondary MCL of 50 µg/l.
29. **Persistent Chlorinated Hydrocarbon Pesticides:** Analytical laboratory results submitted by the Discharger indicate that 2,4-D and dalapon have been detected in the effluent. 2,4-D was detected at an estimated concentration (reported as “J Flag”) of 0.26 µg/l. The Method Detection Limit (MDL) and the Reporting Limit (RL) for 2,4-D were reported at 0.098 µg/l and 9.5 µg/l, respectively. Dalapon was detected at an estimated concentration (reported as “J Flag”) of 17 µg/l. The MDL and the RL for dalapon were reported at 4.3 µg/l and 190 µg/l, respectively.

The Basin Plan includes a water quality objective for pesticides on page III-6.0, which states: *“No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses”* and that *“Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer”*. California DHS established a Primary MCL of 70 µg/l and 200 µg/l for 2,4-D and dalapon, respectively. The Basin Plan objective is more restrictive than the drinking water quality standards for persistent chlorinated hydrocarbon pesticides. Therefore, the Basin Plan objective shall be used to establish effluent limitation. The presence of 2,4-D and dalapon in the effluent indicates that the discharge from the Sierra Plant has a reasonable

potential to cause or contribute to an exceedance of Basin Plan objectives for persistent chlorinated hydrocarbon pesticides. This Order includes an Effluent Limitation for persistent chlorinated hydrocarbon pesticides based on the Basin Plan objective.

30. **Total Trihalomethanes and Chloroform:** Chloroform was detected in two of the three effluent samples at a maximum concentration of 16 µg/l. Chloroform is included in the CTR. However, no CTR criteria for chloroform have yet been established. Therefore, the reasonable potential analysis for non-CTR constituents is applied to chloroform to determine whether chloroform causes or has a reasonable potential to cause an exceedance of a water quality criterion or objective. Using the TSD reasonable potential analysis, the projected MEC of chloroform is calculated at 90 µg/l.

The Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicologic assumptions used by OEHHA and U.S. EPA in evaluating health risks via drinking water exposure of 70 kg body weight and 2 liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 ug/L (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the DHS to set *de minimus* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by U.S.EPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters. Since no drinking water intakes are likely to exist where the ingestion of water is equivalent to the level used in development of the cancer risk assessment downstream of the discharge from the Sierra Plant; therefore, setting a chloroform effluent limitation based on a cancer risk analysis is not appropriate. Although application of the cancer risk criteria is inappropriate, protection of the municipal water supply is necessary and appropriate. The Primary MCL for total trihalomethanes, the sum of bromoform, bromodichloromethane, chloroform, and dibromochloromethane, is 80 µg/l. The projected MEC of chloroform exceeds the Primary MCL. It indicates that the discharge from the Sierra Plant does have a reasonable potential to cause an in-stream excursion above the water quality objective for municipal uses. Therefore, an Effluent Limitation for total trihalomethanes is included in this Order and is based on the Basin Plan objective for municipal use. If U.S. EPA or the State Board develops a water quality objective for chloroform and/or total trihalomethanes, this Order may be reopened and a new Effluent Limitation established.

31. **pH:** In accordance with Basin Plan requirements, the previous Order established a discharge pH range of not less than 6.5 or greater than 8.5. Effluent monitoring data from 1998-2002 demonstrate that the pH of the discharge has ranged from 6.0 to 8.5 standard pH units with a high value of 8.50 (March 2002) and one value lower than the lower limit of 6.0 (5.95 in October 2002). The facility process water is discharged into an unnamed tributary of Pleasant

Creek and has resulted in the formation of a freshwater marsh at the point of discharge. At times, the discharge is the only flow in the unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek. To insure that the discharge from this facility is not a detriment to the aquatic life in the emergent marsh, influent into the emergent marsh shall not have a pH less than 6.5 or greater than 8.5.

32. **Temperature:** Order No. 97-112 contained a receiving water limitation that required the 30-day average ambient water temperature not increase by more than 5°F. This limitation was exceeded two times from 1998-2002 (July and August 2001) based on monitoring at R-1 and R-2. R-1 and R-2 are on Pleasant Grove Creek, nearly two miles downstream of the discharge point. Furthermore, there was high variation in the effluent temperature range during the permit term (48° to 100° F), which potentially could have adverse effects aquatic life in the emergent marsh, the unnamed tributary, and downstream waters. These effluent temperature values were measured at the point of discharge into the emergent marsh. Warm-water fish species, specifically bass and blue gill, have been identified at this point. An aquatic organism survey and assessment of the emergent marsh, the unnamed tributary to Pleasant Grove Creek, or downstream waters has not been conducted to determine the presence of warm and cold-water species. The unnamed tributary to Pleasant Grove Creek and Pleasant Grove Creek currently are ephemeral streams. The discharge from the City of Roseville's new Pleasant Grove Creek Wastewater Treatment Plant discharge into Pleasant Grove Creek will change the character of the receiving stream and increase the likelihood of cold-water fish migration. Similar Creeks in the area, such as Dry Creek and Auburn Ravine, are known to support cold-water fish species. Consultation with the California DFG regarding the presence or absence of cold-water fish species in Pleasant Grove Creek has been unproductive to date. NPDES permits for the nearby City of Roseville's Dry Creek Wastewater Treatment Plant and for the City of Lincoln Wastewater Treatment Plant have site specific temperature limitations to protect cold-water fish species of 60° F (daily average), 62° F (daily maximum) and 58° F (monthly average), 64° F (any time from 1 October through 31 May), respectively.

The receiving stream at the point of discharge is the headwaters for the unnamed tributary to Pleasant Grove Creek. An upstream sampling point is not available to determine the thermal impacts of the discharge. The discharge flows through open areas, prior to entering downstream waters, and the thermal impacts from any discharges entering the drainage course could mask actual impacts of the discharge on downstream waters. The thermal impacts of the discharge have already been assessed and the proposal to eliminate the discharge is largely based on resolving the elevated temperature issues.

33. **Toxicity:** The Basin Plan states that *"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances....The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors shall not be less than that for the same water body in areas unaffected by the waste discharge...."* The Basin Plan requires that *"as a minimum, compliance with this objective...shall be evaluated with a 96-hour bioassay."* This Order requires both acute and chronic toxicity

monitoring to evaluate compliance with this water quality objective. The Basin Plan also states: "...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate;..." Effluent limitations for acute toxicity are included in this Order.

The results of chronic whole effluent toxicity testing from three samples collected in November 2000, December 2001, and November 2002 and submitted to the Regional Board by the Discharger indicate the potential for adverse effects at various effluent concentrations. For the November 2000 sample *Selanastrum capricornutum* growth was adversely affected at the 12.5% concentration of effluent when compared to control water from Pleasant Grove creek. Statistically significant effects on *Pimephales promelas* growth were observed at the 100% effluent concentration vs. creek water.

For the December 2001 sample, a statistically significant effect on *Selanastrum capricornutum* growth was observed at the 50% concentration of effluent when compared to the creek water. Statistically significant effects on *Pimephales promelas* growth were observed at the 75% effluent concentration vs. creek water.

For the November 2002 sample, statistically significant effects on *Ceriodaphnia dubia* reproduction were observed at the 100% effluent concentration when compared to the creek water. *Selanastrum capricornutum* growth was adversely affected at the 75% concentration of effluent when compared to the creek water.

With a low available dilution, it appears that discharges from the facility may cause adverse effects on aquatic organisms. Accordingly, this Order increases the frequency of chronic toxicity monitoring to quarterly. If a trend of toxicity is observed, the Discharger shall be required to develop and conduct a toxicity identification evaluation (TIE) and toxicity reduction evaluation (TRE) plan that includes a schedule for plan implementation.

34. **Receiving Water Limitations:** are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The Receiving Water Limitations of the Basin Plan (dissolved oxygen, temperature, turbidity, and pH) require that numeric constraints be maintained. Specifically, the numeric constraints require that minimum concentration of dissolved oxygen be maintained and that receiving water quality (temperature, turbidity, pH) not change by specified amounts due to impacts attributable to the discharge. The discharge has resulted in the presence of a freshwater emergent marsh, and there is significant biological activity that naturally occurs within marsh-type ecosystems that affects ambient conditions associated with dissolved oxygen, turbidity, pH, and temperature. There is no record available of the ambient receiving water conditions that would be present in the absence of the discharge. An upstream sampling point is not available to determine the thermal, pH shift and turbidity impacts of the discharge. The discharge flows through open areas, prior to entering downstream waters, and the thermal, pH and turbidity impacts from any other discharges entering the drainage course or from other influences (such as the anticipated Sunset-Athens connector road construction) could mask actual impacts of the discharge on downstream waters. Compliance with Receiving Water Limitations for temperature, pH and turbidity cannot be determined by traditional upstream and downstream sampling. A pH

Effluent Limitation has been assigned and should also be protective of the receiving water. The thermal impacts of the discharge have already been assessed and the proposal to eliminate the discharge is largely based on resolving the elevated temperature issues. The permit contains Effluent Limitations for total suspended solids (TSS) of 10 mg/l as a monthly average and 15 mg/l as a daily maximum. While not a direct measurement of turbidity, the TSS Effluent Limitation offers a measure of surety that the turbidity will not be excessive. This permit requires that the Discharger prepare monthly reports (Discharger Self Monitoring Reports) that in part assess compliance with the Receiving Water Limitations. In the event the discharge is not eliminated by 29 April 2007, the Discharger shall be required to submit a workplan that proposes additional measures that will address potential impacts of the discharge and, once approved, will have to implement that workplan promptly thereafter. In addition to an assessment of overall compliance, the workplan will specifically address achieving a discharge temperature that is fully protective of the cold-water beneficial use until the discharge can be eliminated. Sampling for compliance with Receiving Water Limitations will be established at a single point (SN001) for all parameters except temperature, turbidity, and the change in pH (of 0.5 pH units), which cannot accurately be measured.

REASONABLE POTENTIAL ANALYSIS FOR EFFLUENT LIMITATIONS – CTR CONSTITUENTS

35. Using the procedures in Section 1.3 of the SIP, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality criterion for the following constituents:

a. **Dichlorobromomethane**

Data provided by the Discharger indicate that dichlorobromomethane was detected in the facility's effluent at a maximum concentration of 1.2 µg/L. U.S. EPA human health CTR criteria for dichlorobromomethane are 0.56 µg/l (for waters from which both water and aquatic organisms are consumed) and 46 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The maximum detected concentration of dichlorobromomethane exceeds the CTR criterion for waters from which both water and aquatic organisms are consumed. Based on this information, dichlorobromomethane is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. Accordingly, Effluent Limitations for dichlorobromomethane of 1.1 µg/L and 0.0092 lbs/day (daily maximum) and 0.56 µg/L and 0.0047 lbs/day (monthly average), based on the applicable CTR criteria, are included in this Order. A time schedule has been included in this Order for compliance with the dichlorobromomethane limitation.

b. **Bis(2-ethylhexyl)phthalate**

The existing Waste Discharge Requirements, Order No. 97-112, did not include effluent limitations for bis(2-ethylhexyl)phthalate; however, it did require that the Discharger complete a study of the effects of bis(2-ethylhexyl)phthalate on surface waters. A time schedule for compliance with this Provision is included in this Order. The Discharger submitted a report in August 1998 indicating that bis(2-ethylhexyl)phthalate was detected

in several samples during a one-month sample period. Additional sampling was conducted and a second report was submitted in May 1999. This report indicated that bis(2-ethylhexyl)phthalate was not detected in any of the samples at the lowest practicable detection limits. The Regional Board did not reopen the NPDES Order at that time to include effluent limits for bis(2-ethylhexyl)phthalate; however, the Board did recommend that the Discharger continue periodic sampling and analysis to determine and eliminate the source. In the *May 1999 Final Water Quality Sampling Report: Bis(2-ethylhexyl)phthalate*, the Discharger indicated that the source of the contamination had been identified and that bis(2-ethylhexyl)phthalate was no longer present in the discharge.

Data provided by the Discharger in response to the 10 September 2001 letter indicate that bis(2-ethylhexyl)phthalate was detected at a maximum effluent concentration of 9.0 µg/L (November 2002).

U.S. EPA human health NTR criteria for bis(2-ethylhexyl)phthalate are 1.8 µg/l (for waters from which both water and aquatic organisms are consumed) and 5.9 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The maximum detected concentration of bis(2-ethylhexyl)phthalate exceeds human health NTR criteria. The presence of bis(2-ethylhexyl)phthalate in an effluent sample collected in 2002 indicates that the source of bis(2-ethylhexyl)phthalate has not yet been eliminated and that bis(2-ethylhexyl)phthalate is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. Accordingly, Effluent Limitations for bis(2-ethylhexyl)phthalate, of 3.6 µg/L and 0.03 lbs/day (daily maximum) and 1.8 µg/L and 0.015 lbs/day (monthly average), based on the applicable CTR criteria, are included in this Order. A time schedule has been included in this Order for compliance with the bis(2-ethylhexyl)phthalate limitation.

EFFLUENT LIMITATIONS REMOVED FROM ORDER

36. **Phenols:** Order No. 97-112 included technology-based effluent limitations for phenols calculated based upon best professional judgment. These limits are 0.6 mg/L and 5 lbs/day (30-day average) and 3.4 mg/L and 28.4 lbs/day (daily maximum). Effluent monitoring data for phenols indicate exceedances of the 30-day average limit during the previous permit term in February 1999 (1.64 mg/L and 6.16 lbs/day based on two samples). Order No. 97-112 does not provide the basis for the effluent limitations for phenols. Since the issuance of Order 97-112, the CTR was implemented. U.S. EPA human health CTR criteria for phenol are 21 mg/l (for waters from which both water and aquatic organisms are consumed) and 4,600 mg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. There are additional CTR criteria for other phenolic compounds. CTR monitoring in 2002 indicate no detectable levels of any of the CTR phenolic compounds in the effluent or at the upstream receiving water monitoring station (i.e., background). The CTR provides new information on phenols and the effects they have on human and aquatic health. Based upon the CTR criteria for phenols and phenolic compounds, there is no reasonable potential for the discharge to exceed these limitations; therefore, Effluent Limitations for phenols have been removed from

this Order. This change is consistent with the Federal anti-backsliding provisions of 40 CFR 122.44(l)(12) and 122.62(a)(16).

37. **Electrical Conductivity (EC):** Order No. 97-112 contained effluent limitations of 500 $\mu\text{mhos/cm}$ (30-day average) and 1,000 $\mu\text{mhos/cm}$ (daily maximum) for EC (or specific conductance). However, the California Department of Health Services (DHS) secondary MCL for EC is 900 $\mu\text{mhos/cm}$ and the agricultural water quality goal is 700 $\mu\text{mhos/cm}$. The maximum EC of effluent sampled over the previous permit term was 422.7 $\mu\text{mhos/cm}$ and the average EC was 66.8 $\mu\text{mhos/cm}$. These values are below the secondary MCL and the agricultural water quality goal for EC. They also are well below the effluent limitations from the previous Order. The Regional Board is not including effluent limitation for EC in this Order. New information regarding the low EC of the effluent, based on more than five years monitoring (daily in most months), along with information regarding appropriate discharge levels for protection of agricultural and municipal beneficial uses justify removal of this effluent limitation. This change is consistent with the Federal anti-backsliding provisions of 40 CFR 122.44(l)(12) and 122.62(a)(16).

INTERIM EFFLUENT LIMITATIONS - TIME SCHEDULES

38. As stated in the above Findings, the U.S. EPA adopted the NTR and the CTR, which contains water quality standards applicable to this discharge and the SIP contains guidance on implementation of the NTR and CTR. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. Where actual sampling shows an exceedance of the proposed 3.3-standard deviation interim limit, the maximum detected concentration has been established as the interim limitation. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed sampling point to obtain the daily maximum interim limitation (TSD, Table 5-2). The Regional Board finds that the Discharger

can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based Effluent Limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final Effluent Limitations, but in compliance with the interim Effluent Limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, U.S. EPA states in the Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the Effluent Limitation can be achieved.

39. Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1 further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* In this Order, final water quality based effluent limitations for dichlorobromomethane and bis(2-ethylhexyl)phthalate become effective on **1 June 2007** if the Discharger fails to eliminate the discharge as is proposed in the Report of Waste Discharge, or on **29 April 2010** if regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond 1 June 2007. Based on Section 2.2.1 of the SIP, interim effluent limitations were derived based on recent performance.

GENERAL

40. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Resolution No. 68-16 requires the Regional Board regulate the discharge of wastes, to maintain high quality waters of the State, not unreasonably affect beneficial uses, and not result in water quality less than that described in the Regional Board’s policies (e.g., quality that exceeds water quality objectives). The impact on existing water quality will be insignificant.
41. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.

42. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "*The numerical and narrative water quality objectives define the least stringent standards* that the Regional Board will apply to regional waters in order to protect the beneficial uses." This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.
43. Effluent limitations and toxic effluent standards established pursuant to Sections 208(b), 301, 302, 304 (Information and Guidelines), and 307 of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
44. The discharge is presently governed by Waste Discharge Requirements Order No. 97-112, adopted by the Regional Board on 20 June 1997.
45. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.
46. USEPA and the Regional Board have classified this discharge as a minor discharge.
47. Section 13267 of the California Water Code states, in part, "*(a) A regional board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region*" and "*(b) (1) In conducting an investigation..., the regional board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires.*" The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267. The attached Monitoring and Reporting Program is necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges waste subject to this Order.
48. The attached Monitoring and Reporting Program No. R5-2005-____, and Attachments A through D are a part of this Order.
49. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is part of this Order.
50. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with

an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

51. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
52. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 97-112 is rescinded and Formica Corporation, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.
4. The discharge of any wastewater or any alcohol, formaldehyde, phenolic resin, or melamine resin storage tank spill catchment basin water or residue to any ground surface, surface waters, or surface water drainage courses is prohibited.
5. The discharge of any wastes other than the non-contact cooling water to the ground surface, surface waters or surface water drainage courses is prohibited.
6. The use of scale and corrosion control additives other than CHEMTREAT CL-1467 and CHEMTREAT CL-450 is prohibited.
7. The discharge of waste classified as "hazardous" as defined in Sections 2521(a) and 2522(a) of 23 CCR Division 3, Chapter 15 is prohibited.

B. Effluent Limitations (SN001):

1. Effluent discharge at SN001 shall not exceed the following limits:

Constituents	Units	Monthly Average	4-Day Average	Daily Maximum	1-Hour Average
Chemical Oxygen Demand (COD) ¹	mg/L lbs/day ³	10 83	-- --	35 292	-- --
Total Suspended Solids (TSS) ¹	mg/L lbs/day ³	10 83	-- --	15 125	-- --
Dichlorobromomethane ²	µg/L lbs/day ³	0.56 0.0047	-- --	1.1 0.0092	-- --
Bis(2-ethylhexyl)phthalate ²	µg/L lbs/day ³	1.8 0.015	-- --	3.6 0.030	-- --
Aluminum ⁴	µg/L lbs/day ³	71 0.59	-- --	750 6.3	-- --
Iron	µg/L lbs/day ³	300 2.5	-- --		-- --
Total Trihalomethanes ⁵	µg/L lbs/day ³	80 0.67	-- --	-- --	-- --
Naphthalene	µg/L lbs/day ³	14 0.12	-- --	-- --	-- --
Manganese	µg/L lbs/day ³	50 0.42	-- --	-- --	-- --
Persistent Chlorinated Hydrocarbon Pesticides ⁶	µg/L	--	--	ND ⁷	--
Total Residual Chlorine	mg/L lbs/day ³	-- --	0.01 0.08	-- --	0.02 0.17

¹ To be ascertained by a 8-hour composite sample

² The new final Effluent Limitations B.1 for dichlorobromomethane and bis(2-ethylhexyl)phthalate shall become effective from **1 June 2007 forward**, or from **29 April 2010 forward** if regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond 1 June 2007. See Provision No. 2 of this Order for more detail.

³ Mass limits calculated based on permitted average daily flow of 1.0 mgd.

⁴ Compliance can be demonstrated using either total, or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate as approved by the Executive Officer.

⁵ Total trihalomethanes is the sum of bromoform, bromodichloromethane, chloroform, and dibromochloromethane.

⁶ See the Information Sheet for the list of persistent chlorinated hydrocarbon pesticides.

⁷ ND (non-detectable), the non-detectable limitation applies to each individual pesticide at any detection level. No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use EPA standard analytical techniques that have the lowest possible detectable level for persistent chlorinated hydrocarbon pesticides.

2. Until final effluent limitations for dichlorobromomethane and bis(2-ethylhexyl)phthalate become effective, the effluent shall not exceed the following interim priority pollutant limits for dichlorobromomethane and bis(2-ethylhexyl)phthalate:

Constituents	Units	Daily Maximum (MDEL)
Dichlorobromomethane ¹	µg/L lbs/day ²	3.7 0.031
Bis(2-ethylhexyl)phthalate ¹	µg/L lbs/day ²	28 0.23

¹ Full compliance with dichlorobromomethane and bis(2-ethylhexyl)phthalate Effluent Limitations B. 1 are required from **1 June 2007 forward**, or from **29 April 2010 forward** if regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond 1 June 2007, and **prior to 1 June 2007** or **29 April 2010**, effluent shall not exceed Interim Effluent Limits B. 2 above. See Provision No. 2 of this Order for more detail.

² Mass limits calculated based on permitted average daily flow of 1.0 mgd.

3. The discharge shall not have a pH less than 6.5 nor greater than 8.5.
4. The average monthly metered or estimated dry weather discharge flow shall not exceed 1.0 million gallons per day.
5. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%
 Median for any three or more consecutive bioassays - - - - 90%

C. Emergent Marsh Specifications:

1. Discharge to the emergent marsh shall not cause aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
2. Discharge to the emergent marsh shall not cause toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
3. The Discharger shall consult with the local Mosquito Abatement District to minimize vector issues within the marsh.

4. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the property owned by the discharger.

D. Solids Disposal:

1. Collected residue or other solids removed from liquid wastes or containment areas shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Any proposed change in disposal practices from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

E. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. Sampling for compliance with receiving water limitations shall be established at a single point (SN001) for all parameters except temperature, turbidity, and the change in pH (of 0.5 pH units), which cannot be accurately measured.

The discharge shall not cause the following in the receiving water:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/L. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation.
2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
3. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
4. Esthetically undesirable discoloration.
5. Fungi, slimes, or other objectionable growths.

6. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.
7. The ambient pH to fall below 6.5, exceed 8.5, or the 30-day average pH to change by more than 0.5 units.
8. The ambient temperature to increase more than 5°F.
9. Deposition of material that causes nuisance or adversely affects beneficial uses.
10. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
11. Toxic substances to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
12. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.
13. Taste or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
14. Upon adoption of any applicable water quality standard for receiving waters by the U.S. Environmental Protection Agency, the Regional Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

F. Groundwater Limitations:

1. The discharge shall not degrade groundwater quality.

G. Provisions:

1. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

2. **Dichlorobromomethane and Bis(2-ethylhexyl)phthalate Compliance Schedule:** This Order contains Effluent Limitations based on water quality criteria contained in the CTR for dichlorobromomethane and bis(2-ethylhexyl)phthalate. Final water quality-based effluent limitations for dichlorobromomethane and bis(2-ethylhexyl)phthalate become effective on **1 June 2007** if the discharge is not eliminated as presented in the Report of Waste Discharge, or on **29 April 2010**, if regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond 1 June 2007. In the event the discharge is not eliminated by 29 April 2007, the Discharger shall be required to submit a workplan that proposes additional measures that will address potential impacts of the discharge and, once approved, will have to implement that workplan promptly thereafter. The Discharger must comply with the interim effluent limitations for dichlorobromomethane and bis(2-ethylhexyl)phthalate included in this Order until the date compliance with the final effluent limitations is required. As this schedule is greater than one year, the Discharger shall submit semi-annual progress reports on **1 April and 1 October** each year until the Discharger achieves compliance with the final water quality-based effluent limitations for dichlorobromomethane and bis(2-ethylhexyl)phthalate.
3. The Discharger shall conduct chronic toxicity testing as specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation of the plan, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. If a chronic toxicity water quality objective is adopted by the SWRCB, this Order may be reopened and a limitation based on that objective included.
4. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
5. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
6. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-____, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
7. The Discharger must use USEPA test methods and detection limits to achieve detection levels below applicable water quality criteria. At a minimum the Discharger shall comply with the Monitoring Requirements for these constituents as outlined in Section 2.3 and 2.4

of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, adopted 2 March 2000 by the SWRCB. All peaks identified by the USEPA test methods shall be reported.

8. This Order expires on **29 April 2010** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
9. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the SWRCB (Division of Water Rights).
10. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.
11. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

THOMAS R. PINKOS, Executive Officer